

**Summary Minutes of the
U.S. Environmental Protection Agency (EPA)
Clean Air Scientific Advisory Committee
Air Monitoring and Methods Subcommittee (AMMS) Review of EPA Draft Documents on
Monitoring and Methods for Oxides of Nitrogen (NO_x) and Sulfur (SO_x)
Public Teleconference**

Date and Time: March 29, 2011, 1:00 – 3:10 P.M. ET

Location: Teleconference Only

Purpose: The purpose of the March 29th teleconference call is for the Panel to discuss substantive comments from Panel members on the draft CASAC report, “*Review of EPA Draft Documents on Monitoring and Methods for Oxides of Nitrogen (NO_x) and Sulfur (SO_x)*”.

Participants:

AMMS: CASAC Air Monitoring and Methods Subcommittee (AMMS) (See Roster, Attachment A):

Dr. Armistead (Ted) Russell, Chair
Dr. David T. Allen
Mr. George A. Allen
Dr. Linda Bonanno
Dr. Doug Burns
Dr. Judith Chow
Dr. Kenneth Demerjian
Mr. Eric Edgerton
Mr. Henry (Dirk) Felton
Dr. Philip Fine
Dr. Philip Hopke
Dr. Rudolf Husar
Dr. Daniel Jacob
Dr. Peter H. McMurry
Dr. Allen Robinson
Dr. James Jay Schauer
Dr. Jay Turner
Dr. Yousheng Zeng

Drs. David T. Allen, Linda Bonanno, Daniel Jacob, and Peter McMurry could not participate at the teleconference.

LIAISON MEMBERS OF CASAC NO_x - SO_x SECONDARY NAAQS REVIEW
PANEL

Dr. Praveen Amar
Dr. Andrzej Bytnerowicz
Mr. Rich Poirot

EPA SAB Staff: Mr. Edward Hanlon, Designated Federal Officer

Other Attendees: A list of members of the public who requested information for calling into the teleconference is provided in Attachment B, Public Attendance.

Materials Available: The agenda and meeting materials were circulated to the AMMS in advance of the teleconference, and were made available to the public via the CASAC website (www.epa.gov/casac) on the following CASAC AMMS March 29, 2011 NO_x-SO_x Monitoring teleconference webpage:
<http://yosemite.epa.gov/sab/sabproduct.nsf/MeetingCal/1076645A85D7FA4D852578540055FB E0?OpenDocument>.

Teleconference Summary

The teleconference was announced in the Federal Register¹ and proceeded according to the teleconference agenda². A summary of the teleconference follows.

Opening Statements and Welcome

Mr. Ed Hanlon, the Designated Federal Officer (DFO), opened the teleconference, and made a brief opening statement noting that the AMMS is a Federal Advisory Committee under the Federal Advisory Committee Act (FACA). He noted the teleconference was open to the public and that teleconference materials were posted onto the teleconference website. He stated that on March 15, 2011, the Panel received a draft CASAC Report on "*Review of EPA Draft Documents on Monitoring and Methods for Oxides of Nitrogen (NO_x) and Sulfur (SO_x)*" for review. He noted that this draft Report was the subject of discussion for the teleconference, and incorporated key points made by the AMMS Panel during and after the February 16, 2011 AMMS Panel public meeting. He stated that on March 16, 2011, the draft CASAC NO_x-SO_x Monitoring Report was posted onto the 3/29/11 CASAC teleconference website. He stated that no members of the public had requested to present an oral statement during the 3/29/11 teleconference, and that no sets of written public comments for the 3/29/11 teleconference were received. He noted that Mr. George Allen had a potential ethics conflict associated with his financial interest in a continuous sulfate monitoring method, and that Mr. Allen noted he would recuse himself from any discussion on that topic during the teleconference. Mr. Hanlon also noted that minutes of the teleconference were being taken to summarize discussions and action items in accordance with requirements under FACA. He then turned the teleconference call over to the Chair, Dr. Ted Russell.

Dr. Russell welcomed everyone and noted that this is an Advisory effort where a report seeking consensus would be prepared. He then reviewed the agenda. Dr. Russell stated that the 3/16/11 draft CASAC NO_x-SO_x Monitoring Report would be revised after the teleconference and include the consensus position of the Panel and separate individual comments associated with this review.

Discussion on Draft Cover Letter

Dr. Russell requested comments on the draft cover letter, going paragraph by paragraph through the March 16, 2011 draft CASAC Report. Several Panel members requested certain wording changes to several paragraphs. The Panel concurred with those suggested changes and Dr. Russell noted those clarifications would be added to the letter.

One Panel member requested that the letter incorporate additional emphasis on the need for additional performance evaluations of passive samplers used to monitor ammonia. Another Panel member agreed to send updated cover letter language after the call to the DFO with suggested revisions regarding CASAC's advice to EPA in exploring other approaches in its evaluation of methods for measuring NO_y, SO₂ and particulate sulfate ambient air indicators. Another Panel member agreed to send the DFO language from the response to Charge Question 4 that would also be inserted into the cover letter regarding EPA's exploration of other approaches in its evaluation of methods for measuring these ambient air indicators.

Discussion of Draft Responses to Charge Questions

Dr. Russell requested comments on the 3/16/11 draft CASAC NO_x-SO_x Monitoring Report's responses to charge questions.

Charge Question 1 – Use of CASTNET Filter Pack to Measure Particulate Sulfate

Dr. Russell requested comments on the Charge Question 1 draft language and the Panel had no changes to recommend.

Charge Question 2 – Use of CASTNET Filter Pack to Measure Sulfur Dioxide Gas

One Panel member agreed to send suggested typographical corrections to the DFO after the teleconference.

Charge Question 3 - Use of Current Primary FRM (High Time Resolution UVF) to Measure Sulfur Dioxide Gas

The Panel discussed and agreed to delete a few sentences in the response to charge question 3 that discussed examples of additional suggested precautions to improve current ultraviolet fluorescence Federal Reference Method (FRM) sulfur dioxide monitors.

Charge Question 4 – Use of Existing NO_y Methods

Several Panel members requested certain wording changes regarding integration of NO_y methodologies into emerging NO₂ analyzer methods.

Charge Question 5 – Use of the Emerging AMoN Ammonia Monitoring Network

A few Panel members requested certain wording changes regarding measurements of total reduced nitrogen to assist in air quality model evaluation, and regarding integrated ammonia and ammonium measurements using impregnated filters.

Charge Question 6 – Co-Locating Ammonia Measurements

A Panel member requested certain wording changes regarding the CASAC advice to collect ammonia measurements at monitoring sites. One Panel member agreed to send revised language after the call to the DFO with suggested revisions to the last paragraph of the charge question 6 response related to ammonia deposition velocity.

Charge Question 7 – Use of CASTNET Filter Pack to Measure Ammonium Ion

One Panel member agreed to send revised language after the call to the DFO with suggested revisions to the last paragraph of the charge question 7 response related to time resolution requirements for model evaluation and sampling duration.

Charge Question 8 – Establishment of a Suite of NO_y Species Measurements

Dr. Russell requested comments on the Charge Question 8 draft language and the Panel had no changes to recommend.

Charge Question 9 - Use of CASTNET Filter Pack and Rural NCore Networks as a Starting Infrastructure

One Panel member agreed to send suggested typographical corrections to the DFO after the teleconference.

Charge Question 10 - Use of CASTNET Filter Pack to Measure Total Nitrate

One Panel member read suggested changes to the language in the second paragraph response to charge question 10 related to the use of CASTNET total nitrate instead of NO_y for estimating oxidized nitrogen deposition. Another Panel member agreed to send suggested revised language to this updated second paragraph after the call to the DFO.

Charge Question 11 - Broad Consideration of Using CASTNET, Complemented by Rural NCore, As a Framework for National Rural Monitoring

The Panel discussed and agreed to add SO₄ to the suite of NCore measurements that EPA should take to evaluate model predictions for NO_x and NO_z.

The Panel also had a few changes to the “Additional Comments” that were provided in the body of the CASAC report. One Panel member recommended that CASAC advice regarding collection of exploratory measurements of organic constituents to ascertain their potential role in ecological effects be revised. Several Panel members requested changes to the language recommending that EPA develop a modeling research plan.

After hearing no additional comments, Dr. Russell then discussed next steps and action items. He noted that the Panel identified consensus language for changes to the draft cover letter and body of the draft CASAC report, and that a few Panel members agreed to provide the DFO with revised draft language to certain sections of the body of the draft CASAC report after the teleconference. He noted that he and the DFO would incorporate those edits into a revised draft Report that would be sent to the chartered CASAC for quality review and approval. He noted that the revised draft Report would be publicly available for review when posted onto the May 12, 2011 CASAC Quality Review teleconference website. He asked whether any Panel

members were uncomfortable with these next steps, and heard no objections from the Panel.

Dr. Russell expressed thanks to the AMMS Panel members. With the teleconference business concluded, the Designated Federal Officer adjourned the teleconference at 3:10 pm ET.

Respectfully Submitted:

/signed/

Mr. Edward Hanlon
Designated Federal Officer

Certified as Accurate:

/signed/

Dr. Armistead (Ted) Russell, Chair
CASAC Air Monitoring and
Methods Subcommittee

NOTE AND DISCLAIMER: The minutes of this public teleconference reflect diverse ideas and suggestions offered by Panel members during the course of deliberations within the teleconference. Such ideas, suggestions and deliberations do not necessarily reflect consensus advice from the Panel members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters or reports prepared and transmitted to the EPA Administrator following the public meetings.

Materials Cited

The following teleconference materials are available on the CASAC website (www.epa.gov/casac) on or through the following CASAC AMMS NO_x-SO_x Monitoring March 29, 2011 teleconference webpage: <http://yosemite.epa.gov/sab/sabproduct.nsf/MeetingCal/1076645A85D7FA4D852578540055FB E0?OpenDocument>.

¹ Federal Register Notice announcing the teleconference

² Agenda for March 29, 2011 public teleconference

ATTACHMENT A – ROSTER

U.S. Environmental Protection Agency Clean Air Scientific Advisory Committee CASAC Air Monitoring and Methods Subcommittee (AMMS)

CHAIR

Dr. Armistead (Ted) Russell, Professor, Department of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA

MEMBERS OF AMMS

Dr. David T. Allen, Professor, Department of Chemical Engineering, University of Texas, Austin, TX

Mr. George A. Allen, Senior Scientist, Northeast States for Coordinated Air Use Management (NESCAUM), Boston, MA

Dr. Linda Bonanno, Research Scientist, Office of Science/Division of Air Quality, New Jersey Department of Environmental Protection, Trenton, NJ

Dr. Doug Burns, Research Hydrologist, U.S. Geological Survey

Dr. Judith Chow, Research Professor, Desert Research Institute, Air Resources Laboratory, University of Nevada, Reno, NV

Dr. Kenneth Demerjian, Professor and Director, Atmospheric Sciences Research Center, State University of New York, Albany, NY

Mr. Eric Edgerton, President, Atmospheric Research & Analysis, Inc., Cary, NC

Mr. Henry (Dirk) Felton, Research Scientist, Division of Air Resources, Bureau of Air Quality Surveillance, New York State Department of Environmental Conservation, Albany, NY

Dr. Philip Fine, Atmospheric Measurements Manager, South Coast Air Quality Management District, Diamond Bar, CA

Dr. Philip Hopke, Bayard D. Clarkson Distinguished Professor, Department of Chemical and Biomolecular Engineering, Clarkson University, Potsdam, NY

Dr. Rudolf Husar, Professor, Mechanical Engineering, Engineering and Applied Science, Washington University, St. Louis, MO

Dr. Daniel Jacob, Professor, Atmospheric Sciences, School of Engineering and Applied Sciences, Harvard University, Cambridge, MA

Dr. Peter H. McMurry, Professor, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN

Dr. Allen Robinson, Professor, Department of Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, PA

Dr. James Jay Schauer, Professor, Department of Civil and Environmental Engineering, College of Engineering, University of Wisconsin - Madison, Madison, WI

Dr. Jay Turner, Associate Professor, Environmental & Chemical Engineering, Campus Box 1180, Washington University, St Louis, MO

Dr. Yousheng Zeng, Managing Partner, Providence Engineering & Environmental Group LLC, Baton Rouge, LA

LIAISON MEMBERS OF CASAC NO_x - SO_x SECONDARY NAAQS REVIEW PANEL

Dr. Praveen Amar, Director of Science and Policy at NESCAUM (Northeast States for Coordinated Air Use Management), Boston, MA

Dr. Andrzej Bytnerowicz, Ecologist and Senior Scientist with the USDA Forest Service Pacific Southwest Research Station, Riverside, CA

Mr. Rich Poirot, Air Pollution Control Division, Vermont Department of Environmental Conservation, Waterbury, VT

SCIENCE ADVISORY BOARD STAFF

Mr. Edward Hanlon, Designated Federal Officer, U.S. Environmental Protection Agency, Washington, DC

ATTACHMENT B – Other Attendees

List of Members of the Public Who Requested Information for Calling into the Public Teleconference of the EPA Clean Air Scientific Advisory Committee Air Monitoring and Methods Subcommittee (AMMS) for the Review of EPA Draft Documents on Monitoring and Methods for Oxides of Nitrogen (NO_x) and Sulfur (SO_x)

March 29, 2011

Name	Affiliation
Ellis, Vicki	USEPA
Flynn, Aaron	Hunton and Williams, Inc.
Jansen, John J.	Southern Company
Johns, Doug	USEPA
Kwong, Jenette	California Air Resource Board
Parker, Stuart	Inside Washington Publishers
Shaw, Stephanie L.	Electric Power Research Institute, Inc.